| Inde | ex of Claims |
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Application/Control No.

Applicant(s)/Patent under Reexamination

10/603,790

KANG, WON-SEOK

Examiner

Art Unit

Toan Ton

2871

| , | Rejected | _ | (Through numeral)<br>Cancelled |
|---|----------|---|--------------------------------|
| = | Allowed  | ÷ | Restricted                     |

| N | Non-Elected  | A | Appeal   |
|---|--------------|---|----------|
| ı | Interference | 0 | Objected |

| Cla      | Claim Date |                 |          |                  |         | ]              | Cla      | aim              | im Date  |          |              |          |               |                 |          | CI   | aim            | Date  |          |          |        |  |          |                     |  |                   |          |          |          |  |          |           |
|----------|------------|-----------------|----------|------------------|---------|----------------|----------|------------------|----------|----------|--------------|----------|---------------|-----------------|----------|--|----------------|---|----------|----------|--------|--|----------|---------------------|--|-------------------|----------|----------|----------|--|----------|-----------|
|          |            |                 |          |                  | Т       |                | Τ        |                  | П        |          |              | =        |               |                 | П        | Т  | Т              | Т   |          |          |        |  |          |                     | Т  | Т                 |          |          |          |  |          |           |
| त्त      | Original   | 5/31/05         | Ų        |                  |         |                |          |                  |          |          | ল            | Original |               |                 | - 1      | ļ  |                |   |          |          |        | Final  | Original |                     |  |                   | ľ        |          |          | - [  |          | ı         |
| Final    | ij         | 8               |          |                  | ŀ       |                |          |                  |          |          | Final        | nig      |               |                 | - 1      | ļ  |                |   |          |          |        | ᇤ  | Ē        |                     |  |                   | ľ        |          |          | - 1  | - 1      |           |
| -        | Ō          | 8               | ĺ        |                  |         |                |          |                  |          |          | _            | 0        |               |                 |          | - 1  | - 1            |   |          |          |        |  | 0        |                     | ı  |                   |          |          | ı        |  |          | J         |
| -        | 1          | 1               | -        | ┰                | ╅       | +              | ╁        | ╁╴               | +        |          |              | 51       | $\vdash$      | _               | $\dashv$ | $\dashv$                                       | $\dashv$       | +   | $\vdash$ | _        |        |  | 101      | $\dashv$            | $\dashv$   | $\dashv$          | $\dashv$ | $\neg$   | _        | $\neg$   | ┪        | ┪         |
|          | 2          | 1               | +        | ╬                | - -     | +              | ╫┈       | +                | ╁        |          |              | 52       | $\vdash$      | $\dashv$        | -+       | $\dashv$                                       | +              | +-  | +        | $\vdash$ |        |  | 102      | $\dashv$            | +  | $\dashv$          | $\dashv$ | $\dashv$ | ┪        | $\dashv$   | ┪        | $\dashv$  |
| ├        |            | -               |          |                  |         | +-             | +-       | +-               | ╁        |          | -            | 53       | $\rightarrow$ | $\dashv$        | +        | +  | $\dashv$       | +-  | ╁─       | ⊢        |        |  | 103      | $\vdash$            | +  | $\dashv$          | $\dashv$ | -        | $\dashv$ | $\dashv$   | $\dashv$ | $\dashv$  |
| _        | 3          | =               | -        | +                | +       | +              | ╁        | +-               | ╁        |          |              | 53       | -             | $\dashv$        | $\dashv$ | $\dashv$                                       |                | +   | ╁╌       |          |        |  | 103      | -                   | +  | $\dashv$          | -        | $\dashv$ | $\dashv$ | $\dashv$   | -        | 러         |
| ├─-      | 4          | <b>√</b>        |          | - -              |         | +              | ╄        |                  | -        |          | <u> </u>     | 54       | $\vdash$      |                 |          | +  | +              | +-  | +-       | ⊢        |        |  |          | $\vdash$            | +  | -+                | ᅱ        |          |          | $\dashv$   | $\dashv$ | 러         |
|          | 5          | 1               | _        |                  |         |                | +        | -                | +        | liiii    |              | 55       |               | +               | $\dashv$ | $\dashv$                                       | -+             | ┰   | +-       | -        |        |  | 105      | $\dashv$            | +  | $\dashv$          |          | -        |          | $\dashv$   | $\dashv$ | $\dashv$  |
| <u> </u> | 6          | 1               | -        | <u> </u>         | _ _     | +              | 4_       | -                | ╀_       |          |              | 56       | $\dashv$      | 4               | -        | +  | -              | -   | ₩        | _        |        |  | 106      |                     | -+   | $\dashv$          | $\dashv$ | -        |          |  | $\dashv$ | ᅴ         |
|          | 7          | 1               | _        | _ _              | - -     | _              |          | _                | _        |          |              | 57       | _             | 4               | 4        | -  |                | 4   | -        |          |        |  | 107      | $\dashv$            | 4  | 4                 | -        | _        | 4        | -  | -        | -         |
|          | 8          | 1               | _ _      | _ _              | _ _     | _              | 4_       | ↓_               | <u> </u> |          |              | 58_      | $\Box$        | _               | 4        | _  | $\perp$        | _   | ╄        | <u> </u> |        |  | 108      |                     | 4  | 4                 | _        | _        | 4        | $\dashv$   | _        | ᅴ         |
|          | 9          | 1               |          |                  |         | $\perp$        |          | _                | L        |          |              | 59       |               | 4               | 4        | 4  | _              | _   | $\perp$  |          |        |  | 109      | $\Box$              | 4  | 4                 | _        | _        | _        | -  | _        | _         |
| L        | 10         | N               |          |                  |         |                |          |                  |          |          |              | 60       |               |                 |          | $\perp$  |                |   | $\perp$  | L        |        |  | 110      |                     | $\perp$  | $\perp$           | $ \bot $ |          |          |  |          |           |
|          | 11         |                 |          | $\perp$          |         | $\perp$        |          |                  |          |          |              | 61       |               |                 |          |  |                |   | $\perp$  | <u></u>  |        |  | 111      | Щ                   | $\perp$  |                   |          | l        |          | $\perp$  | $\Box$   | ]         |
|          | 12         |                 | T        |                  |         |                | Ţ        | $\perp$          |          |          |              | 62       |               | $ \rfloor $     | $\Box$   | $\Box$   |                | Ĺ   |          | oxdot    |        |  | 112      |                     |  |                   |          |          | I        | $\Box$   |          | ]         |
|          | 13         | П               |          | $\Box$           |         | T              | Τ        | T                | $\Box$   |          |              | 63       |               | _T              | T        | _T   | T              | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{\Box}}}$ |          | L        |        |  | 113      |                     |  | $\Box$            |          |          |          | $\Box$   |          |           |
|          | 14         | П               |          | T                | T       | T              | T        | T                |          | ]::::    |              | 64       |               |                 |          | T  |                | $\prod_{i=1}^{n}$                                 |          |          |        |  | 114      |                     | $oxed{J}$  | $\Box \mathbb{I}$ |          |          |          | J  |          |           |
|          | 15         | Ш               | 十        | _                | 1       | 1              | $\top$   | 1                | 1        | 1        |              | 65       | $\Box$        | $\neg$          |          | $\neg$   | $\neg$         | $\top$  | Т        |          |        |  | 115      |                     |  | $\Box$            |          | $\Box$   |          |  |          |           |
|          | 16         | $\sqcap$        | $\dashv$ | _                | ┰       | $\top$         | T        | T                | $\top$   | 1        |              | 66       | $\sqcap$      | 寸               | 寸        | 7  | $\top$         | T   | T        |          |        |  | 116      | $\Box$              |  | $\neg$            | $\neg$   | ヿ        |          | 丁  | $\neg$   |           |
|          | 17         | ţ               | _        | +                | _       | 1              | $\top$   | $\top$           | 1        |          |              | 67       | $\Box$        | 寸               | $\neg$   | $\neg$   | _              | $\top$  |          |          |        |  | 117      | $\Box$              | 7  | $\neg$            |          | $\dashv$ |          | ヿ  | ヿ        |           |
| <b>—</b> | 18         | V               | -        | +                | +       | 1-             | +        | 1                | +-       | 1        | <del></del>  | 68       | $\vdash$      | +               | $\neg$   | +  | $\dashv$       | $\top$  | $\top$   | T        |        |  | 118      | $\sqcap$            | 十  | 十                 | -1       | $\neg$   | $\neg$   | $\dashv$   |          | $\neg$    |
| $\vdash$ | 19         | 1               | -        | +                | 1       | +-             | +-       | -                | -        |          |              | 69       | $\vdash$      | $\dashv$        | $\dashv$ | 十  | _              | ╁   | +-       |          |        |  | 119      |                     | 十  | 寸                 | 寸        |          |          | $\dashv$   | 寸        | $\neg$    |
|          | 20         | 1               |          |                  |         | ╁              | ╅        | ╁                | +        | l III    |              | 70       | ┝╼┼           | $\dashv$        | $\dashv$ | $\dashv$                                       |                | +   | ╁        | ┢        |        | -  | 120      | -                   | 十  | 十                 | $\dashv$ | $\dashv$ | $\dashv$ | $\dashv$   | $\dashv$ | $\dashv$  |
| $\vdash$ | 21         | 0               |          | +                | - -     | ╁              | - -      | ┥                | +        |          |              | 71       | $\vdash$      | $\dashv$        | $\dashv$ | +  | $\dashv$       | +-  | +        | $\vdash$ |        |  | 121      | $\vdash$            | +  | ┰                 | -        | $\dashv$ |          | -  | ᅥ        | $\dashv$  |
|          |            | 1               |          |                  |         | +-             | ╁        | -                | +        | ł        |              | 72       | ┝╼┼           | +               | $\dashv$ | $\dashv$                                       |                | ┰   | +-       | ├        |        |  | 122      | $\vdash$            | +  | $\dashv$          | $\dashv$ | -        | -        | $\dashv$   | $\dashv$ | ᅥ         |
|          | 22         | 1               |          |                  |         | ╁              | +        | -                | -        | ł        |              | 72       | $\vdash$      |                 | $\dashv$ | +  | +              | ┿   | +-       | ⊢        |        |  | 123      | $\vdash$            | $\dashv$   | $\dashv$          | -        | $\dashv$ | $\dashv$ | $\dashv$   | $\dashv$ | $\dashv$  |
| <u> </u> | 23         |                 |          | - -              | - -     | ╬              | +        |                  | +        | 1        |              | 73       | $\vdash$      | +               | -+       | +  |                | +   | +-       | ⊢        |        |  |          | ┝╼┼                 | $\dashv$   | $\dashv$          | $\dashv$ | $\dashv$ |          | $\dashv$   |          | $\dashv$  |
|          | 24         |                 |          | _ _              |         | ╀              | 4        | ┼-               | +-       | ł III    |              | 74       | $\vdash$      | 4               | -        | $\dashv$                                       | -              | +-  | +        | ⊢        |        |  | 124      | $\vdash$            | +  | -                 | -        | $\dashv$ | -        | $\dashv$   | $\dashv$ |           |
|          | 25         | $\vdash$        | -        | - -              | - -     | - -            | - -      | 4_               | -        | ļ        |              | 75       | $\vdash$      | 4               | _        | 4  |                |   | ┼-       | ┡        |        |  | 125      | $\vdash \vdash$     | -  | -                 |          |          |          | $\dashv$   | $\dashv$ | $\dashv$  |
| <u> </u> | 26         | Ш               |          |                  | - -     | 1              | - -      | - -              | -        |          |              | 76       |               | 4               | _        | 4  |                | +   | ₩        | <u> </u> |        |  | 126      | Н                   | 4  | -                 |          |          |          | $\dashv$   | 4        | _         |
| L        | 27         | Ш               |          | _ _              |         | 1              |          | _                | _        |          |              | 77       | $\sqcup$      | 4               | 4        | _  |                | 4_  | <b>_</b> | <u> </u> |        |  | 127      | $\vdash$            | 4  | _                 |          |          |          | $\dashv$   |          |           |
|          | 28         | Ш               |          |                  |         | $\perp$        |          | .  _             | -        | ļ        |              | 78       | $\sqcup$      | _               | 4        | 4  |                | 1   | -        | <u></u>  |        |  | 128      | Ш                   | _  | _                 | _        | _        |          | $\dashv$   | _        | _         |
|          | 29         | Ш               |          | _ _              |         | 1              |          |                  | -        | <b>.</b> |              | 79       | Ш             | _               | _        |  |                | $\perp$   | _        | L        |        |  | 129      | <b> </b>            | _  | 4                 | _        | _        |          | _  |          | _         |
| L        | 30         |                 |          |                  | _ _     | _              |          | 1                | !        | ]        |              | 80       |               |                 | _        |  |                |   |          | <u> </u> |        |  | 130      | Ш                   | _  |                   | _        | _        |          | $\perp$  |          |           |
|          | 31         |                 |          |                  | i_      |                |          | 1                | 1        |          |              | 81       |               |                 |          | _1   |                |   |          |          |        |  | 131      |                     |  |                   |          |          |          |  |          |           |
|          | 32         |                 | T        |                  |         |                |          | ╧                |          |          |              | 82       | Ш             | $_{ m J}$       | $\Box$   | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{I}}}$ |                | Ĺ   |          |          |        |  | 132      | $\Box$              |  |                   |          |          |          | $oldsymbol{ol}}}}}}}}}}}}}}}}$ |          | ]         |
|          | 33_        |                 |          |                  | T       |                |          |                  |          |          |              | 83       |               |                 |          | $_{ m I}$                                      | $oxed{\Gamma}$ |   | L        | L        |        |  | 133      | ĹĴ                  | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{I}}}$   |                   |          | ]        |          |  |          |           |
|          | 34         |                 |          |                  | $\top$  | T              | T        | 1                |          | ]        |              | 84       |               |                 |          | T  | $_{ m I}$      |   |          |          |        |  | 134      |                     | $oldsymbol{ol}}}}}}}}}}}}} $ |                   |          |          |          |  | [        |           |
|          | 35         | $\Box$          |          |                  |         | T              | 1        | 1                | 1        | 1        |              | 85       |               | 丁               |          | J  |                | Τ   |          |          |        |  | 135      |                     | J  |                   | ┚        |          |          | ╗  |          |           |
|          | 36         | П               | $\neg$   |                  |         | 1              | 1        | 1                | 1        | 1        |              | 86       | П             | $\neg \uparrow$ |          | T  |                | $\top$  | Τ        |          |        |  | 136      |                     | T  | $\Box$            |          |          |          |  | $\Box$   |           |
|          | 37         | П               |          |                  |         | $\top$         | 1        | <del> </del>     | 1        | 1        |              | 87       | П             | 寸               | $\dashv$ | T  | $\top$         | $\top$  | Т        | Г        |        |  | 137      |                     | $\top$   |                   |          | $\neg$   |          | $\dashv$   | ヿ        | $\exists$ |
|          | 38         | П               | -        | _ _              | $\top$  | 1              | 1        | - <del> </del> - | 1        | 1        | <b>-</b>     | 88       | $\Box$        | _               | _        | $\dashv$                                       | $\dashv$       | 1   | T        | $\vdash$ |        | <b></b>  | 138      | $\Box$              | $\top$   | _                 |          | $\neg$   |          | $\dashv$   | ヿ        | $\neg$    |
|          | 39         |                 | $\dashv$ | -                | +       | $\top$         | $\top$   | +                | +        | 1        |              | 89       | $\vdash$      | 寸               | $\neg$   | 寸  | _              | $\top$  |          |          |        |  | 139      | П                   | $\neg$   | 寸                 | T        | $\neg$   |          | ヿ  | $\neg$   | $\neg$    |
|          | 40         | $\Box$          |          |                  | - -     | $\top$         | 1-       | -                | 1        |          |              | 90       | H             | 一               | $\dashv$ | 十  | $\dashv$       | $\top$  | 1        | Т        |        |  | 140      |                     | _  | 7                 | $\neg$   | _        | $\neg$   | $\neg$   | 一        | $\dashv$  |
| $\vdash$ | 41         | $\vdash$        | -        | -                | -       |                | +        | -                | ,        |          |              | 91       | $\vdash$      | 7               | $\dashv$ | $\dashv$                                       | +              | +   | 1        | $\vdash$ |        |  | 141      | $\vdash$            | _  | 7                 | 一        | $\neg$   |          | $\dashv$   | $\dashv$ | $\neg$    |
| <b></b>  | 42         | $\vdash$        | $\dashv$ | - <del> </del> - | +       | <del>-i-</del> | +        |                  |          | 1:       |              | 92       | $\vdash$      | +               | +        | $\dashv$                                       | +              | +   | +        | Н        |        |  | 142      |                     | _  | $\dashv$          |          | $\neg$   |          | $\dashv$   | 一        | $\dashv$  |
|          | 43         | -               |          |                  | +       | ╁              |          | -;               | +        | ۱        |              | 93       |               | -+              | $\dashv$ | $\dashv$                                       | +              | +   | +        | $\vdash$ |        | _  | 143      | $\vdash$            | $\dashv$   | -+                | -        |          |          | $\dashv$   | $\dashv$ | $\dashv$  |
|          | 44         | $\vdash$        | +        |                  | +-      | +-             | ╢        |                  | i        | łiii     | <del> </del> | 94       | $\vdash$      | -+              | $\dashv$ | $\dashv$                                       | +              | ┰   | +        | Η-       |        | <del>                                     </del> | 144      | $\vdash$            | +  | +                 | $\dashv$ | $\dashv$ | $\vdash$ | $\dashv$   | $\dashv$ | ᅱ         |
| $\vdash$ |            | $\vdash \vdash$ | +        | - -              | +-      | +-             | +        | -                |          | ₩        |              | 95       | Н             | $\dashv$        | $\dashv$ | -  | +              | +-  | ╁        | -        |        | <del></del>                                      | 145      | ┝╌┼                 | -+   | -+                | -        | $\dashv$ | $\dashv$ | $\dashv$   | $\dashv$ | ᅴ         |
| -        | 45         | $\vdash$        |          |                  | +       | +-             | +-       | +-               |          | {        |              |          | $\vdash$      | $\dashv$        | -        | $\dashv$                                       | +              | +-  | +        | -        |        |  |          | $\vdash \vdash$     | +  |                   | $\dashv$ | $\dashv$ | $\vdash$ | -  | $\dashv$ | $\dashv$  |
| <b>├</b> | 46         | $\vdash \vdash$ | - -      | - -              | - -     | +              | -        | 4_               |          | <b></b>  | ļ            | 96       | $\vdash$      | $\dashv$        | $\dashv$ | $\dashv$                                       |                | +-  | ╁        | <u> </u> |        | <u> </u>   | 146      | ┝╌┼                 | -+   | . +               | $\dashv$ | $\dashv$ |          | $\dashv$   | -        | $\dashv$  |
|          | 47         | Щ               | 4        | _ _              | $\perp$ | - -            | 4        | _!               | -        | ł::::    | ļ            | 97       | $\vdash$      | 4               | _        | 4  |                | +-  | ₩        | <u> </u> |        |  | 147      | $\vdash \downarrow$ | $\dashv$   | 4                 |          |          |          | _  | _        | _         |
| <u></u>  | 48         | Ш               | _        | _                | _       | 4_             | _        |                  |          | H        |              | 98       | Ш             |                 | _        | $\dashv$                                       | _              | +   | ╄        | 1_       |        | <u> </u>   | 148      | Щ                   | $\dashv$   | _                 | _        | _        |          | $\dashv$   | _        |           |
| L        | 49         | Ш               | _ _      | _                |         | 1_             |          |                  | i        | Ш        |              | 99       | Ш             | _               | _        | $\perp$  |                | $\perp$   | ╄        | _        |        |  | 149      | Ш                   | $\perp$  |                   | _        |          |          | _  | _        |           |
|          | 50         | $\sqcup$        | $\perp$  |                  |         |                | <u> </u> |                  |          | J ::::   | L            | 100      | Ш             |                 |          |  |                | ┸   |          | <u></u>  | J::::: |  | 150      | Ш                   |  |                   |          |          |          | $\perp$  |          |           |